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Making the organic food service chain work and survive

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Abstract. Public food provision has received increased attention during the past decades from policymakers, parents and citizens. As an example, food in schools is increasingly coming into focus of change and innovation agendas. One of the most persistent agendas is the call for more organic foods and organic procurement schemes are developing as a strategic part of policymaker's tools. However, evidence has shown that the organic change agenda in public food service supply chains seems to be fragile. This is due to the fact that the organic agenda challenges the normal way food service provision works and thus it seems insufficient to implement organic food once and for all. The organic supply chain is dynamic as it is being challenged by influences such as price premiums, supply shortages and convenience level problems. This paper investigates three Danish municipalities focusing on important elements in the policy process that make the organic food service chain work and survive on a long-term scale.

Key words: Organic food service, socio-technology, socio-economic, municipalities, school food, qualitative study, food sociology

INTRODUCTION

This analysis of policies for public organic procurement is based on a dynamic understanding of the organic food chain and how this interacts with actors, stakeholders and the concrete policy contexts. This article reports some of the findings from the ERA-Net, CORE-Organic project iPOPY (ipopy.coreportal.org).

Basically, it is important to understand the relationship between objectives, policies and outcome. A shift to organic food in public procurement cannot be considered a simple substitution of single products. This is documented in a number of studies on conversion to organic food (Kristensen et al., 2005; Mikkelsen et al., 2007; Morgan & Sonnino, 2008). Converting food supply chains affects the properties, stakeholders and functionality of the entire system. Even relatively minor changes in the system might cause need for adjustments, while other changes may occur due to new possibilities given by the change to organic food (Dawson, 2000). Thus, in order to acknowledge and develop the potential of shifting to organic procurement, it becomes important to rethink objectives, policies and how to evaluate the outcome. A translated theoretical perspective with inspirations from actor-network perspectives of Latour (1987, 1993, 1999, 2004) and Callon (1986) and similar theoretical dynamic network perspectives have been inspiring the analysis of organic school food supply

provisions through recent studies (Dahl & Kristensen, 2006; Nielsen et al., 2008; Morgan & Sonnino, 2008). Installing explorative and field study inspired methods allows analysts to become familiar with the characteristics of the new system being formed. These analytical concepts are operational in studying how and to what extend organic agriculture and food production is becoming embedded in local contexts: in organisations, in bureaucracies, in institutions and in cultural norms and principles. And they are operational in similar analysis of embeddedness of organic school food provision. This is an important aspect in relation to municipalities' activities. The dynamics in this process might in some cases go against some of the values and ideas in organic food production, which is equally important to identify. Such processes have been characterised through analysis of ecological modernisation (Dahl & Kristensen 2006; Kristensen & Nielsen, 2007) and governance and network-oriented processes related to multi-stakeholder partnerships and governance (Barling et al., 2007; Morgan & Sonnino, 2008). In order to understand the process and motivations or lack of motivations from different stakeholders to participate in the development of the organic food chain, one must understand the concept, or the various concepts, that the stakeholders have of organic food production, be they issues of healthier food, safe food, food culture, better environment etc (Nielsen et al., 2008; Strassner et al., 2009).

A strategy for public organic procurement needs to focus on objectives on different levels. The most apparent objective could be to obtain growth in the number of institutions that have organic products or in the percentages of organic products in public procurement. A second could be obtaining a stable momentum in – or embedding into - the existing systems. Embedding is dependent on the interest, motivation and understanding of various stakeholders. If any or more of the key stakeholders, from parents and children, over teachers and canteen employees, to farmers, distributors or local politicians are reluctant to promote the organic food chain, this can pose a threat to the stability of the system or inhibit further development. Reluctance from stakeholders can either be because they do not see the reason in the big picture for promoting the organic food chain or because the organic food chain creates conflicts for a particular group.

The success of embedding is also dependent on structures. Both the back-stage structures, such as legislation in various fields, the size of the schools and the organisation established specifically to promote the organic food chain. Networks between different agents can also be seen as a structure, creating a kind of enrolment (Murdoch, 1997) of aggregate stakeholders or change agents in the school food sector (Nielsen et al., 2008). In such processes, stakeholders are of course continuously changing the structure, and what might be seen as fixed unchangeable structures in one municipality may be changeable in another due to the resources and organisation of the involved stakeholders.While a development of an organic food chain may produce a good outcome on the first level, i.e. more organic food in the schools, it might in some cases lack the momentum to be sustainable or resistant in the long term, for instance by being vulnerable to internal controversies in the system.

Finally we stress the innovative capability of the organic food chain (von Hippel, 2007; Grunert et al., 2008). This is the capability of the system to continuously evolve, adapting to changes and even changing the values and visions of the system. A well embedded system may facilitate the innovative capability of the system, for instance by having built up trust among the stakeholders, good networks and institutions for

dialogue and collaboration. It is likely that an innovative capability is needed to create the momentum at first. But over time, the system may freeze and become inert, and thus it may also limit it the innovative capability of the system.

Three Danish cases. In order to illustrate the ideas in the above-mentioned policy analysis model, we will use the model to analyse some elements in three cases from Danish municipalities where organic food has been introduced into the school meals: Copenhagen[1], Roskilde and Gladsaxe. It should be noted, that the following analysis is only an example focusing on a few elements to illustrate the analytical approach, whereas a comprehensive and full analysis of the cases would be considerable more detailed, include the whole system and the interactions between system and surroundings.

In all three cases, the pupils are offered daily hot meals during their lunch break. In the Danish schools there has not been a tradition for serving hot meals for the pupils. Instead the younger pupils usually bring their own food (lunch boxes) in form of open sandwiches prepared at home, whereas the older pupils will often leave the school area during the lunch break and buy food in the local shops. In Copenhagen and Roskilde, the idea of using organic products was created alongside the project of establishing hot meals in the schools. However, whereas the strategy in Copenhagen has been to start out partly conventional and gradually introduce more organic ingredients through a municipal central kitchen, Roskilde quite early outsourced the production, delivery and preparation to an organic catering company. Gladsaxe has had school kitchens for a longer period with mostly conventional food, but has gradually introduced more organic ingredients in the meals. Recently the municipality, as a part of the local Agenda-21 plan for 2009–012, has set it as an objective to make the organic part of ingredients in school food reach 25% (See Table 1).

Table 1. School serving organic meals in the three case municipalities.

MUNICIPALITY	Schools involved	% organic in meals[2]	Start period
Copenhagen	52	75%	2000
Roskilde	10 (out of 19)	92%	2001
Gladsaxe	14 (out of 16)	15%	2004

In all three cases the school meal systems are based on individual choice and costs are paid by the parents. Parting from Danish tradition, where the pupils brought their food from home, this means that especially the schools in Copenhagen and Roskilde have had problems attracting the pupils/parents to use the school food service. At some of the schools the percentages of usage is for some periods below 5% for these two cases.

The initiation of the school food systems in the three cases has been different. In the case from Copenhagen, the project was started as a pilot project in four schools motivated by a study showing that pupils in schools had very unhealthy eating habits. Later the project has been opened for other schools to participate in. The food is supplied by a municipal, central kitchen delivering meals to numerous institutions, and of mixed organic and conventional ingredients. In Roskilde, the project was initiated

[1] Project KØSS - Københavns Økologiske Sunde Skolemad (Copenhagens Organic Healthy Food)
[2] Percentage of organic ingredients measured in weight.

through a decision from the city council and it was decided to let a private organic catering firm deliver the food to the schools. In Gladsaxe the initiative has developed from individual schools, which have started programs on their own. This has later caught interest among local politicians in the city council as well as other schools in the municipality and a network has been created to share knowledge and experiences. The municipal health administration has at this point played a key role as an intermediary for setting the agenda through facilitating, assisting and encouraging the schools in the development. Each school has got its own kitchen, and own agreements with food suppliers, supported by the administration.

In the three cases there seems to be a strong correlation between how the projects are initiated and how they are later organised in terms of food delivery system and who becomes the central actors in the system. The Roskilde case began with a decision from the top and it still has a organisation with less involvement from the pupils (end users) and less influence at the school level. At the other end, the schools in Gladsaxe have much more freedom in making their own decisions, which also means that the pupils, caterers, teachers and parents are closer to the decision-making process. The local school kitchen caterers also make it possible for the pupils to follow and participate in the creation of school meals on a daily basis. Although this correlation might not exist in other cases, it suggests that the forms of organisations are not easily altered. There is inertia, and one could argue that the system and its stakeholders enrol themselves in a certain logic or discourse which influences for instance the way they see problems and the way they seek to solve these.

In the Copenhagen case the project was launched with a significant focus on food didactics aimed at creating consciousness about food and changing food habits. One of the ideas has been to involve the users (the 6th grade pupils) in the daily work of selling the food from the tuck shop. However, the relatively low percentage of pupils buying the school food suggests that the system has had problems in reaching the end users. This was also becoming an economic problem, as the school food system was not becoming economically self-reliant as it had been budgeted it should. In order to counter this problem, the central coordinators have gradually changed the diet to move closer to making the plates more attractive to the pupils, removing for instance fish from the menu and in general selling less vegetables, with the result that the initial objective of healthy food education has been compromised (Andersen, 2008).

The dilemma in the Copenhagen case described above relates to the specific organisation and policies applied. Firstly, compared to the Gladsaxe case, the system is more centralised and there is a relatively long distance between the end-users and the stakeholders making the decisions. While the communication in the Gladsaxe case is characterised by a daily face-to-face dialogue between stakeholders at school level, the communication in the Copenhagen case is much more indirect and abstract, for instance through user surveys and information newsletters. Secondly, the system has less flexibility to adapt to the wishes of the single schools because of the use of a central kitchen model with half-year menu planning and long term contracts with suppliers. Thirdly, the Copenhagen KØSS case seems to have been less successful in creating local ownership at the school level.

CONCLUSIONS

In these case studies in municipalities we have found three differently designed organic food supply networks dealing with implementing organic food in school lunches. The aims have a number of similarities. But the strategies practiced have resulted in an interesting variety in organic shares and to what extend the organic supply have been embedded into robust routines that will be able to overcome tendencies challenging the organic food supply on prices, structures or ability to stay enrolled and legitimate. The study has documented the differences in organic food supplies based on the following networks: 1) a municipal, multiple central kitchen using partly organic products, 2) a private organic catering supplier, and 3) a decentralized (school based) kitchen cocking partly organic meals. All school food served is based on user payments (typically 20 DDK/2.90 € pr. meal). Two of the municipalities encounter stagnation in the amount of sold meals whereas Gladsaxe seem to have the best results, experiencing a stable growth in both the number of meals sold and the share of organic food products.

The clearest distinction, with regards to policy processes, is between central production and decentralised production. In the case of the decentralised production we also see the most embedded system. This means that the local commitments, the network closest to the end-users – the pupils and the parents – seem to have most success and a positive embedding of the school food, the organic share being relatively low in the beginning, but experiencing stable growth.

These differences also become obvious when studying the central administration of the municipal school food networks. In Gladsaxe there are proactive administrative actors that both have close communication with the decentralised kitchens at the schools and with other administrative units and the publicly elected political decision makers.

The three cases all show that innovating, designing and implementing organic school meals demand working with commitment from decision makers in the municipal and school organisations at all relevant levels, it demands development of embedded infrastructures (dedicated organic school food supply chains) that is shaped according to the actual policies and resources, and finally it demands clear linkages to actual and legal agendas amongst the actors and stakeholders.

Yet a final conclusion can be drawn from these case studies, namely that the sharing of knowledge and experiences seem to present a challenge. The potential in learning and sharing from one-another and in establishing information systems seems to be huge. A response to this should, also according to other similar studies, have a higher priority in the future of organic school meal initiatives. And it should include both internal and external embedding procedures and practices.

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REFERENCES

Andersen, B. 2008. Vurdering af den nuværende skolemad i Københavns Kommune [Assessing the present school food in Copenhagen (in Danish).

Callon, M. 1986. Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. In Law, J. (ed.): Power, Action and Belief: a New Sociology of Knowledge? Routledge, London, pp. 196–233.

Dahl, A., & Kristensen, N.H. 2006. Public sector procurement: Organic school meals in Denmark, In Holt, G. C. & Reed, M. (eds.): *Sociological perspectives of organic agriculture: from pioneer to policy*, pp. 260–266. CABI Publishers.

Dawson, P. 2000. Technology, work restructuring and the orchestration of a rational narrative in the pursuit of 'Management objectives': the political process of plant-level change In *Technology analysis & Strategic Managemen* **12**(1), 2000.

Dogme, 2000. [WWW document]. URL http://www.dogme2000.org/t2w_375.asp [Access Jan 07, 2008]

Grunert, K.G., Jensen B.B., Sonne, A.M., Brunsø, K., Byrne, D.V., Clausen, C., Friis, A., Holm, L., Hyldig, G., Kristensen, N.H., Lettl, C. & Scholderer, J. 2008. User-oriented innovation in the food sector: Relevant streams of research and an agenda for future work. *Trends in Food Science and Technology* **19** (2008) 590–602.

He, C. & Mikkelsen, B. E. 2008. Organic school meals in three Danish municipalities. Organic Eprints, http://orgprints.org/14061/

Kristensen, N.H. 2008. Økologi og catering [Organic Food and Catering]. Kapitel i "Vækst, udvikling og integritet i den danske økologisektor". Hvidbog. Forskningscenter for Økologiske Fødevarer og Jordbrug/International Centre for Research in Organic Food Systems.

Kristensen, N.H., Thorsen, A,V,, Dahl, A,, Engelund, E.H. & Mikkelsen, B.E. 2005. Innovation, Management and Sustainability – change processes in the food service sector. Chapter in "Culinary Arts and Sciences V – Global and National Perspectives". Bournemouth University. ISBN 1-85899-179-X

Kristensen, N.H. & Nielsen, T. 2007. Økologi mellem radikalitet og inddefinering – når økologi bliver markedsorienteret [Between radicalism and modernity – when ecology becomes market oriented]. Chapter in Holm, J., Petersen, L.K., Læssøe, J., Remmen, A. & Hansen C.J. (red): *Økologisk modernisering på dansk, Brud og bevægelser i miljøindsatsen [Ecological modernisation in Danish*]. Forlaget Frydenlund ISBN 978-87-7887-549-5

Latour, B., 1987. Science in Action. How to Follow Scientists and Engineers Through Society. Open University Press, Milton & Keynes.

Latour, B. 1993. We Have Never Been Modern. Harvester, Wheatsheaf, London.

Latour, B. 1999. Pandora's Hope. Essays on the Reality of Science Studies. Harvard University Press, Cambridge, MA.

Latour, B. 2004. Politics of Nature. How to Bring the Sciences into Democracy. Harvard University Press, Cambridge, MA. Rekolainen, S., 2001.

Mikkelsen, B.E. 2007. Sustainability standards and metrics for public food. Supply, Standards and Strategy - An international conference examining how to make public sector food and its supply systems more sustainable. Alimenterra. London City Hall.

Morgan, K. & Sonnino, R. 2008. The School Food Revolution: Public Food and the Challenge of Sustainable Development, Earthscan, ISBN 1-84407-482-2.

Murdoch, J. 1997. Inhuman/nonhuman/human: actor-network theory and the prospects for a nondualistic and symmetrical perspective on nature and society. *Environment and Planning D: Society and Space* **15**, 731–756.

Nielsen, T., Nöelting, B. & Kristensen, N.H. 2008. A comparative study of the implementation of organic food in current school meal systems in four European countries. iPOPY discussion paper. Bioforsk Report. ISBN: 978-82-17-00343-4.

Nielsen, T., Kristensen, N.H., Schmidt, H.W. & Hansen, S.R. 2008. Organic and conventional public food procurement for youth in Denmark. Bioforsk Report **3** (40), 7.

Strassner, C., Løes, A.K., Kristensen, N.H., Spigarolo, R. (editors). 2009. "Proceedings of the Workshop on Organic Public Catering" at the 16th IFOAM Organic World Congress, 19th June 2008 in Modena, Italy. CORE Organic project nr: 1881. Jan 2009. ISBN: 978-87-991343-7-3

von Hippel, E. 2005. *Democratizing Innovation*. MIT Press: Cambridge.

von Hippel, E. 2007. Horizontal innovation networks — by and for users. *Industrial and Corporate Change* **16,** (2) 293–315.